FIG. 1

System-2: Block Diagram of a Multiprocessor system incorporating Destroyer with UABM

Figure 2

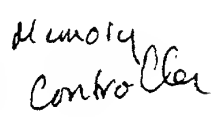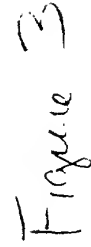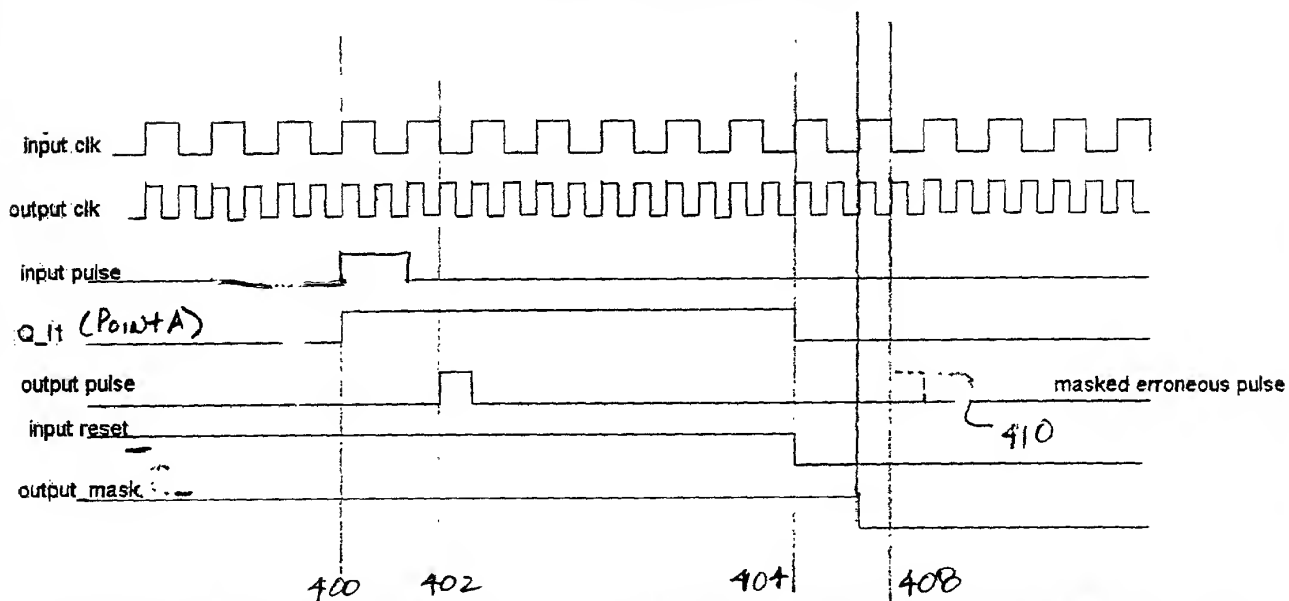## Universal Asynchronous Boundary Module

This flip-flop is used to metastability

The output mask is used in where support is needed for domain to be in reset while the domain is not. It prevents output pulses from occuring reset of hte input flip-

Figure 3

Universal Asynchronous Boundary Module - Case: Input Clock Domain Reset Asserted

Note: Asserting the output mask prevents possible occurance of erroneous pulse when input clock domain's reset (input reset) is asserted

Figure 4

Universal Asynchronous Boundary Module - Case: Output Clock Domain Reset Asserted

output_clk

input_clk

input_pulse

Q_11 $(P_{out} + A)$

output_pulse

output_reset

output_mask
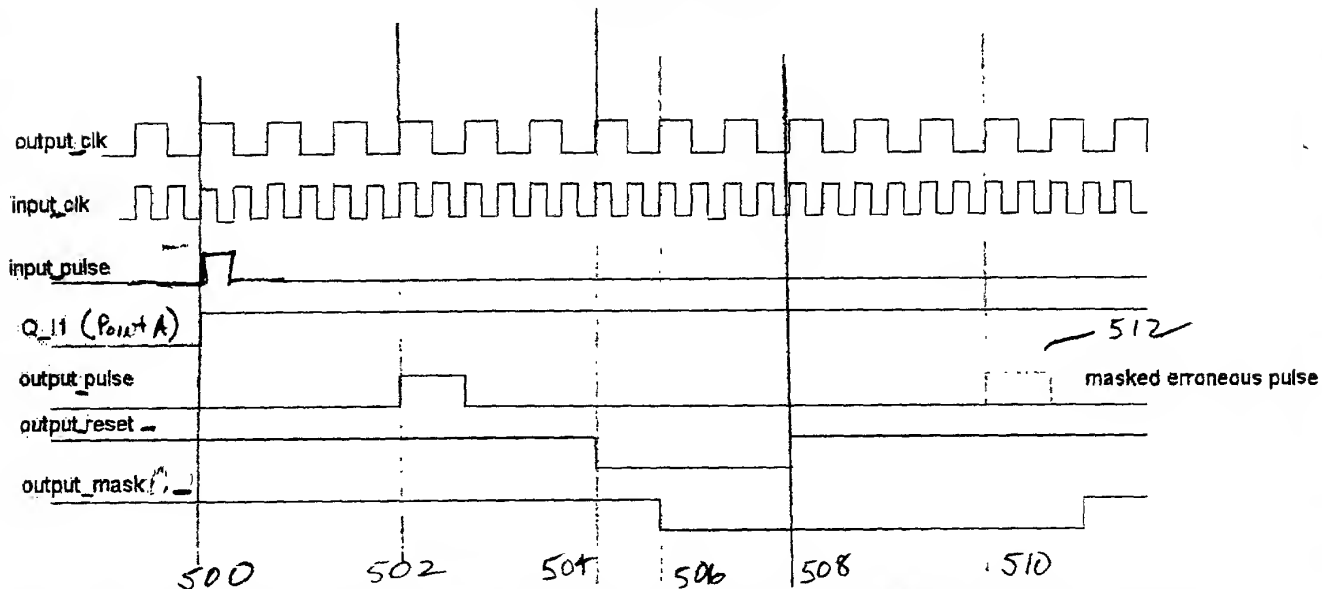
500 502 504 506 508 510

512

masked erroneous pulse

Note: Asserting the output mask prevents possible occurance of erroneous pulse when output clock domain's reset (output reset) is asserted

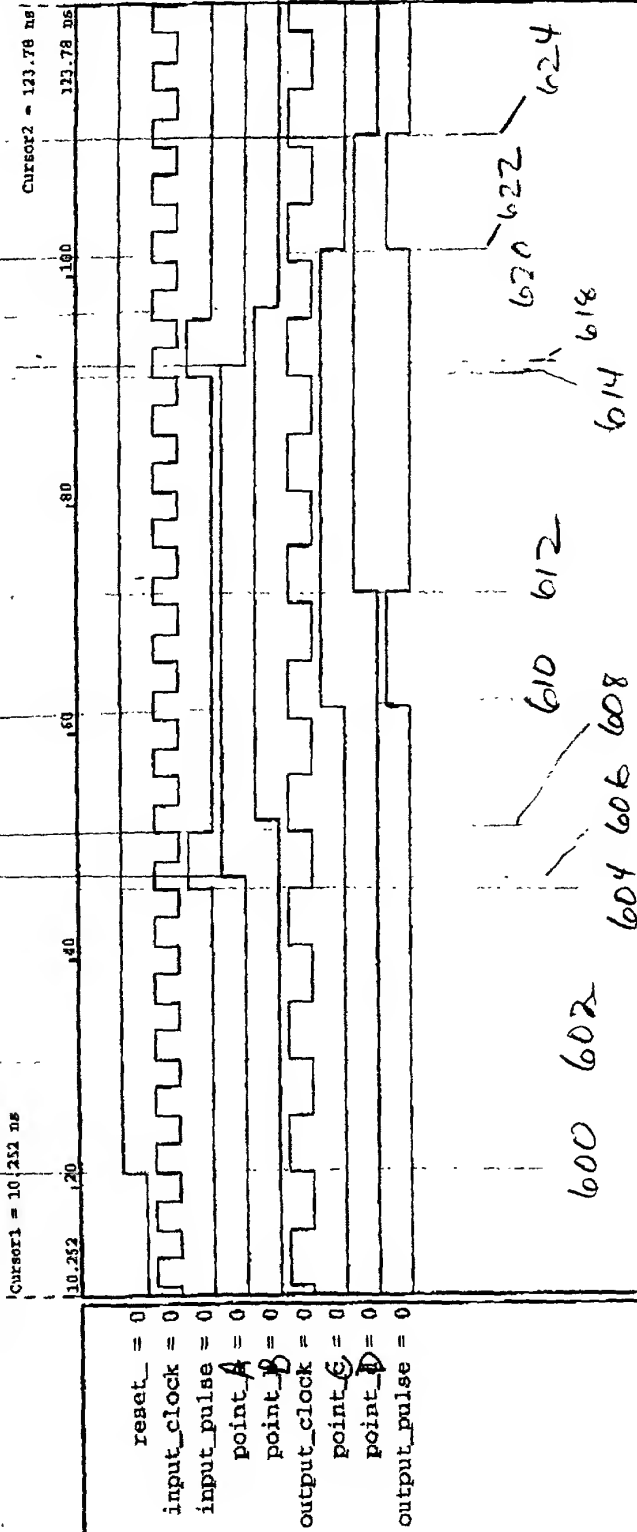Figure 5

Figure 6

UABM Test #1
Paras Shah

Group: Test

Signal	Value
reset_	= 0
input_clock	= 0
input_pulse	= 0
point_A	= 0
point_B	= 0
output_clock	= 0
point_C	= 0
point_D	= 0
output_pulse	= 0

Cursor1 = 10.252 ns

Cursor2 = 123.78 ns

UABM Test #2
Paras Shah

Group: Test

Cursor1 = 18.75 ns
Cursor2 = 221.359 ns   221.359 ns

18.75   50   100   150   200   223.359 ns

reset_ = 0
input_clock = 0
input_pulse = 0
point_A = 0
point_B = 0
output_clock = 0
point_C = 0
point_D = 0
output_pulse = 0

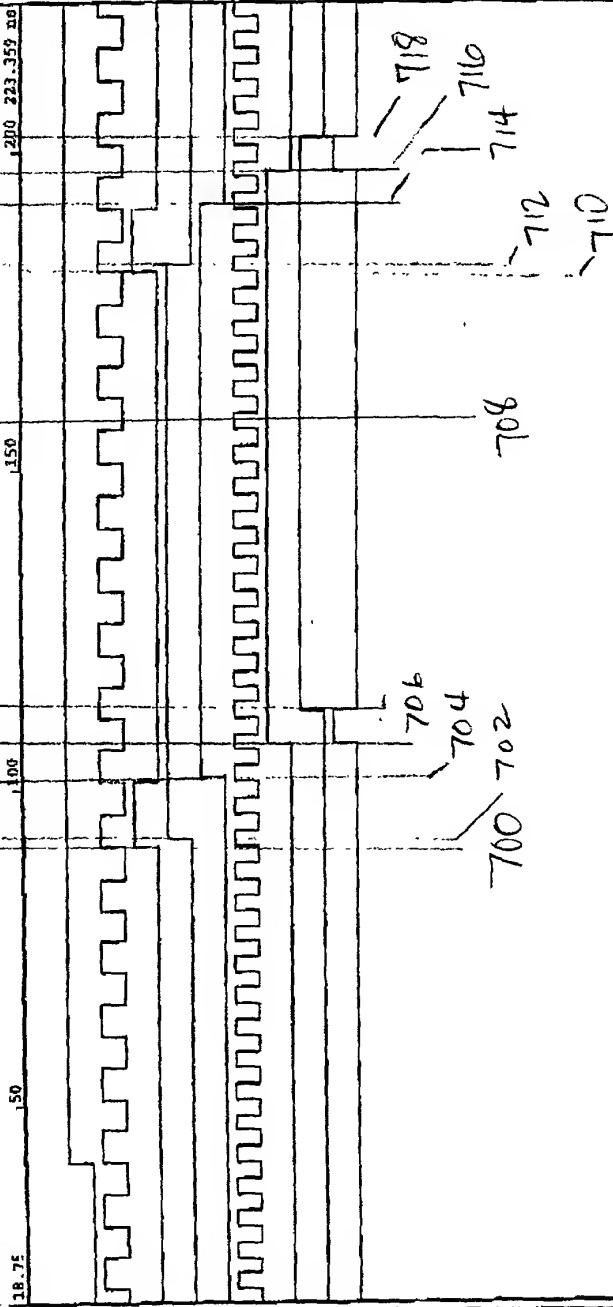700 702 704 706 708 710 712 714 716 718

Figure 7

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Figure 8